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Obituary

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Detlef Schröder (1963–2012)

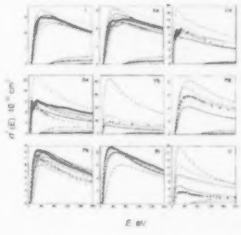
Regular Articles

2–16

Binary encounter models for electron ionization of atoms: A one parameter expression for electron energy dependent (E < 200 eV) single ionization cross section

B. Tsipinyuk, A. Bekkerman, E. Kolodney

► A single parameter expression for the electron ionization cross section of atoms. ► Agreement with experiments is comparable with other multi-parameter expressions. ► Contribution of deep inner shells due to post-collision interactions is discussed.

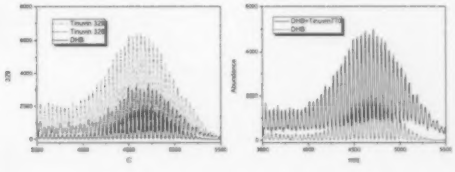


17–22

Analysis of poly(ethylene glycol) using matrix-assisted laser desorption/ionization-mass spectrometry: Novel matrix systems using ultraviolet light absorber and stabilizer

Sung-Seen Choi, Hye-Seung Chung

► PEG was analyzed using UV absorber in MALDI-MS. ► Tinuvin 328 and Tinuvin 329 are good for the MALDI-MS analysis of PEG. ► By adding Tinuvin 770 to DHB, the ionization efficiency notably enhanced.



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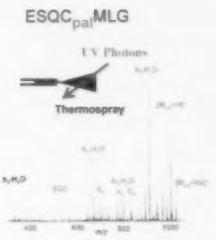
http://dx.doi.org/10.1016/S1387-3806(12)00353-3

23–27

Atmospheric pressure photoionization study of post-translational modifications: The case of palmitoylation

Aïcha Bagag, Alexandre Giuliani, Matthieu Réfrégiers, François Le Naour

► Atmospheric pressure photoionization allows investigating palmitoylation. ► Synchrotron radiation provides optimal energy for photoionization. ► Photoionization provides in source fragmentations yielding to *a*, *b*, *c* and *y* ions. ► APPI can be implemented with any existing mass spectrometer.

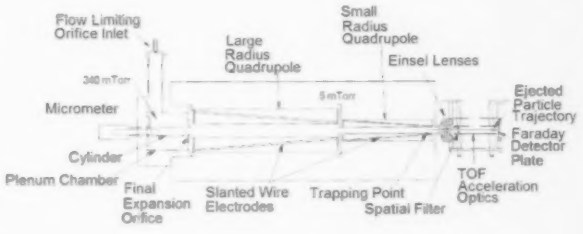


28–35

Increasing the trapping mass range to $m/z = 10^9$—A major step toward high resolution mass analysis of intact RNA, DNA and viruses

Xinyu Wang, Huijuan Chen, Jeonghoon Lee, Peter T.A. Reilly

► Atmospheric sampling and trapping of singly charged particulates is demonstrated. ► Sampling and trapping was demonstrated up to $m/z = 3 \times 10^9$ with an efficiency of 1%. ► Trapping larger ions is possible. ► Trapping millions of ions is a prelude to resolved mass analysis in this range.

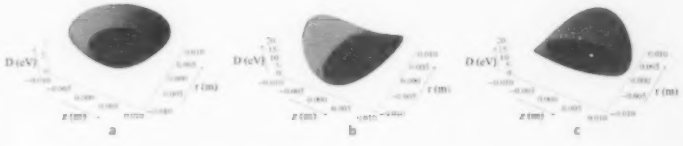


36–42

Evolution of isotropic and anisotropic spatial distribution of large ion clouds during the onset of quasi state equilibrium condition in a Paul trap

Manoj Kumar Joshi, Pushpa M. Rao

► We report experimental and theoretical work on spatial distribution of ion cloud. ► Near; spherical, oblate and prolate ion cloud distributions is observed. ► Shrinking of the size of ion cloud is observed with time due to loss of ions. ► In a non quasi stationary state the distribution is observed to be nearly isotropic. ► True shape of the ion cloud is realized for less number of ions.

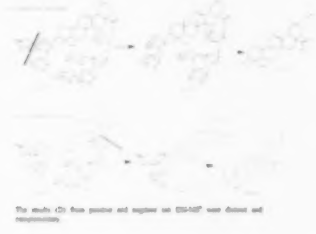


43–66

Structural characterization and identification of five triterpenoid saponins isolated from *Momordica cochinchinensis* extracts by liquid chromatography/tandem mass spectrometry

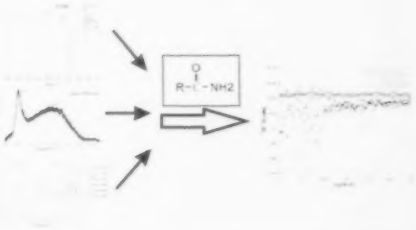
Zhi-Yan Lin, Xiaoyun Liu, Fan Yang, Yun-Qiu Yu

► An LC–MSn method was used to study the characterization of triterpenoid saponins. ► The fragmentation behavior of triterpenoid saponins was different in two ion modes. ► Five saponins from *Momordica cochinchinensis* was deduced by this method. ► A rapid approach was applied to online structural deduced of triterpenoid saponins.



67–77

An experimental study of organic matters that cause isobaric ions interference for boron isotopic measurement by thermal ionization mass spectrometry

He-Pin Wu, Shao-Yong Jiang, Hai-Zhen Wei, Xiong Yan

► We confirm the isobaric ion inference in the TIMS boron isotope measurement. ► We verify possible functional groups with FTIR, Laser Raman and TG-MS. ► We confirm the existence and influence of amide group in the TIMS measurement. ► The isobaric ion inference comes from the organic compounds with amide group in biocarbonates.